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Journal of The American Institute of ARCHITECTS



RICHARD MORRIS HUNT

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October, 1947

Architecture and the Art of Medicine

A. I. A. Insignia, Past and Present

Let's Have Some Fun

Social Security

The Perfect Kitchen

What Is an Estimator?

Richard Morris Hunt—1828-1895

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PUBLISHED MONTHLY AT THE OCTAGON, WASHINGTON, D. C.

JOURNAL OF
THE AMERICAN INSTITUTE OF ARCHITECTS

OCTOBER, 1947

VOL. VIII, No. 4

Contents

Architecture and the Art of Medicine	147	Ralph Waldo Emerson Wrote This	170
<i>By Joseph Hudnut</i>		A.I.A. Insignia, Past and Present	
Social Security.	156	Let's Have Some Fun.	
<i>By Electus D. Litchfield, F.A.I.A.</i>		<i>By Edward Steese</i>	
Published Comments on the United Nations Headquarters	158	Richard Morris Hunt, 1828-1895	180
What Is an Estimator?	159	<i>By Henry Van Brunt, F.A.I.A.</i>	
<i>By R. D. Sannit</i>		Architects Read and Write: The Architect and His Education	187
The Perfect Kitchen and How to Make Out with It	169	<i>By R. Clipston Sturgis, F.A.I.A.</i>	
<i>By Edwin Bateman Morris</i>		The Editor's Asides	189

ILLUSTRATIONS

La Vina Sanatorium, Altadena, Calif.	163
<i>Myron Hunt and H. C. Chambers, Architects</i>	
Country Home of the late Ernest Flagg, F.A.I.A.	164
Dongan Hills, Staten Island, N. Y.	
Past and Present Insignia of The A.I.A.	173
Do you know this building?	174

The *Journal of The American Institute of Architects*, official organ of The Institute, is published monthly at The Octagon, 1741 New York Avenue, N.W., Washington 6, D. C. Editor: Henry H. Saylor. Subscription in the United States, its possessions and Canada, \$3 a year in advance; elsewhere, \$4 a year. Single copies 35c. Copyright, 1947, by The American Institute of Architects. Entered as second-class matter February 9, 1929, at the Post Office at Washington, D. C.

No. 4

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Architecture and the Art of Medicine

By Joseph Hudnut

DEAN, GRADUATE SCHOOL OF DESIGN, HARVARD UNIVERSITY

An address before the Third Ann Arbor Conference, on Hospital Planning,
April 3, 4, and 5, 1947

NO ART is more widely misunderstood than the art of architecture, and no building illustrates the misunderstanding more clearly than the hospital. The hospital has become so completely a product of the technologies of medicine and of manufacture, so precisely adapted to the uses of sciences, as to become in effect a scientific instrument not essentially different from the X-ray machine or the operating-table which it encloses. It is hard for people to imagine any relationship between such a building and that great tradition whose flowers are the Parthenon and the Cathedral of Chartres. It is hard to think of a hospital as a work of art.

I have a friend, long experienced in hospital management, who showed me recently the blueprints for a new hospital which he intends to build. The plans were drawn without the services of an architect. The physicians and nurses, it appears, know what they

want; the engineer and the contractor know all that is necessary about steel and brick; and the manager knows about organization, coordination, and executive competence. "This building," said my friend, "is going to be so functional that we won't need an architect."

I must say that I was somewhat disturbed by this remark. I have in recent years given some encouragement to the doctrine of functionalism in architecture, and it was certainly not my intention to promote the extinction of architecture. It seemed to me, as I thought it over, that my friend had offered my creed a somewhat formidable challenge—a challenge which I ought not to ignore. What art is possible in a scientific instrument? What beauty is tolerable in a hospital—in this machine so resolutely and so urgently addressed to the uses of science? What has architecture to do with medicine?

Now I should like to put aside for a moment all consideration of the architect as technician. I am aware that my manager-friend challenged the architect not only in his role as form-giver and artist but in his role as technical expert and executive; but I shall assume that the architect's proved competence will suffice to meet the second of these challenges. When people have built a few hospitals without architectural service our cause will not need further discussion. If we are content to be technicians we may let the argument rest at that point.

I am going to assume that we will not let the argument rest at that point. I am going to assume that we are artists—and not ashamed of it. Taking it for granted that we are rightly employed in the design of hospitals as planners, engineers and experts in mechanical installations, may we hope to find also in hospitals some scope for that art of expression, integral to planning and construction and yet distinct from these, which deserves the name *architecture*?

To come back now to that disturbing comment—"This building is going to be so functional that we won't need an architect"—let

us see just what is implied. Architecture, clearly, is conceived here as something *added on*. Architecture is ornament, style, sentiment, good taste, fashion, precedent, scholarship or decent respect for one's neighbors—but in any case it is not understood as something inherent in the purpose of the building. Architecture is understood as something having its source not in the thing to be done, in the idea to be expressed, but in some climate or realm of idea outside the hospital. It is meant to satisfy, not doctor and patient, but some standards of valuation and of behavior to which both are alien.

There is a good example of such a hospital in Manhattan on the East River—a good example of a good hospital made ridiculous by the "architecture" which was added on to it. The men who planned and built this hospital planned and built it skillfully for the very complex and exacting services of a great medical center; their science was competent and alert; and yet they could find nothing in their magnificent theme which could be expressed in their art. Therefore they added something on, something brought here from distant Avignon. For the

outward forms of their hospital they took as their model the mighty donjons and ranged towers, the powerful mass and silhouette, the pointed windows and romantic overtones of a medieval palace. These they embedded in the frame of their scientific instrument in the hope that the relic of a departed civilization might afford the people of New York those contemplative satisfactions which are, alas, prohibited by our contemporary civilization.

I am not sure that this *architecture-added-on* embarrasses in any way the functions of the hospital. Perhaps it is indeed an innocent whimsy giving pleasure to romantic minds outside the hospital and no hindrance to the serious work within. On a rainy night, under a waning moon, the firm, sombre mass of Avignon contrasts pleasantly with the confusions of the river-front. Just the same, it must be evident that the relation of such an architecture to the active science it encloses must be somewhat tenuous. It does not surprise me to learn that some doctors of medicine feel that they can get along without it.

Fortunately, a different relationship of architecture and science is possible. Not long ago I

was sent to a hospital for an operation—by no means a serious one—and while I was gradually regaining consciousness I overheard, in that brief interval in which a patient hears without being able to move, a dialogue which to my mind throws some light on this question. I will try to reproduce the conversation which took place between my nurse and a young interne:

The interne: Has he come out of it, sweetheart?

The nurse: Not yet, doctor . . . Numb as a nail.

The interne: Queer dick, isn't he?

The nurse: I'll say, doctor . . . Nuts about art, beauty, and all that.

The interne: Plump as a pullet outside and tough as all Hell inside . . . but you should have seen how the Old Master opened him up . . . a beautiful operation, sweetheart . . . Beautiful, beautiful!

This conversation is wholly irrelevant to my subject except for the use of the word *beautiful* to describe an operation. I must say I found that word—which seemed to belong to my own vocabulary—somewhat arresting when used by a doctor. I assumed that

beautiful was not used in a technical or professional connotation. I assumed that my doctor meant what he said (the only safe assumption with doctors) and I resolved therefore that, once safely free of ether, I would explore this meaning.

The doctor meant that there was in the performance of this operation some perfection of technique and procedure beyond the strict routine sanctioned by the known laws of biology and chemistry. Into this routine the Old Master had introduced an unusual precision and sureness, an exceptional elegance and distinction, and these were introduced not as things added on in the name of art but as inseparable parts of the work which had to be done and the means which were essential to that work. Beauty was the consequence of that way of working. Beauty is form imposed upon external data whenever the need for a perfection beyond necessity intervenes to guide the hand of the worker.

Now I am by no means sure that my young interne meant all of this or that my nurse understood all that he meant her to understand; but it is what I mean and what he ought to have meant.

To be a beautiful hospital, a hospital must first be a hospital. A hospital must be first of all shaped for the life which it is to contain and for the requirements of whatever structure envelopes that life. That life and that structure may nevertheless be guided in such a way as to lift the forms which they create above the dull compulsions of circumstance. Few techniques are so absolute in their demands, few economies so rigid in their limitations, as to leave no opportunities for proportion and rhythmic relationship, for selection and emphasis in arrangement and distribution, in line and color, shadow and silhouette; nor are there any of these things which cannot be discovered and made evident in the most exacting of technological disciplines.

These are the genuine materials of architecture. They do not originate in function and yet they are inseparable from function. They are prompted by that same search for perfection which guides the practitioner of medicine when, without forsaking the firm bases of his practical skill and experience, he yet brings into his practice that imaginative command of

means and expediencies which lifts it into an art.

Most doctors, I think, are aware of this imaginative quality in medicine and will admit its analogy to modern architecture, and yet it may seem strange that I should invite them to accept a responsibility for beauty—if I may use that much abused word—in hospitals. Their cares are sufficiently numerous; and confronted with issues of life and death, of the health of populations, the matter may not seem of supreme importance.

It happens, nevertheless, that the practice of medicine does not occur in a private world shut off from general current and circumstance — although I sometimes think that this fact is overlooked in the education of doctors. The practice of medicine is not bounded, as some suppose, by the realm of the sciences, or even by that physical world, part nature and part artifice, which is made known to us by our five senses—or by the twenty-one additional senses which we have invented. The practice of medicine takes place in the midst of a structure of idea and thought and feeling, a structure built out of vast complexities of social, political and

spiritual values which are in part inherited and in part created by us: the structure we call *civilization*. The practice of medicine reaches out into that fabric; and that fabric in turn lays hold of medicine; lays hold of it and channels it and determines its utility and its power.

Whatever therefore concerns that general cause concerns also the doctor of medicine. Whatever influences may be at work to sustain our civilization, to give it firmness and direction and consequence, concern him. The balance and strength of political structure, order and justice in the pattern of our society, well-being and progress in our economy, security in our national life and the educational processes which continue and enlarge our culture: these are inseparable from the cause of medicine. These are not abstractions; not little bundles of idea to be put into some remote compartment of the mind, separate and apart from medicine; but parts rather of that same good life to which medicine is addressed. Medicine progresses beside those who promote the general and social health.

Thus it happens that the doctor of medicine cannot fail to acknowledge two loyalties, which

are parts of a common loyalty. His immediate concern is with his patient, with his profession, with the public health; yet, even when he is most preoccupied with these, when his science is most exact in method and purpose, when all of his faculties and all of the intricate apparatus of his profession are brought to bear on the one thing there and now to be done, he is yet engaged in a wider service in which each individual act, each individual sacrifice, is a cumulative and integral part. Around the doctor of medicine, in each commonplace and habitual exercise of his art, stands the general envelope of humanity from whose cause his individual service gains its dignity and its meaning.

How could it be thought then that doctors should be unmindful of architecture? Architecture is one of those means by which our universal need for order and harmony is realized. Architecture is one of those means by which men enlarge the world by adding to it the qualities which satisfy that need for order and harmony. There is no mystery about this—none, that is, which does not exist in all human experience. In proportion as we desire a satisfactory pattern in human life—a balanced and com-

plete civilization—so we will desire to bring into that pattern the arts which enrich it. In proportion as we understand human life we will understand the power of art to illumine and expand that life. Certainly architecture, which rests so closely upon us—which is a kind of clothing wrapped around the dry bones of our institutions—must stand first among the arts—the arts which environ the sciences not less surely than they guard all other aspects of our civilization.

Of course, if we think of architecture as a clothing brought into our civilization from some more picturesque age—an anodyne for eyes unable to look at the face of the present—I see little in it to deserve the respect of the physician. I should think that he might rightly wish to dispense with a masquerade which so obscures or denies the relevancy of his building to its great and immediate purpose. Suppose, on the other hand, that there were architects who wished to state that purpose in their constructed forms; to set forth in the language of architecture the *hospital idea*; and to do that in such a way that all who saw the hospital should perceive the idea within it and know that

this was one with those great ideas which light the path of mankind. I think then that no doctor of medicine would be willing to dispense with architecture.

Our architects will find that hospital idea, not in their libraries, but in the hospital itself. In the thing that is done there lies the idea to be expressed. This marshalling of science to the relief of human suffering, this generous strict cooperation of men and skills, this vision free of substitution and imposture and confusion; these are themes more noble than a wilderness of stylistic romances. Not by affectations or scholastic mummeries, by extravagances in ornament, or stark asceticism of shadowless wall, or by styles imported from abroad will we make this theme eloquent, but rather by our understanding and clear statement of purpose, to which is added, by the well-tried expedients of our craft, the good form in line and mass and plane which affirm the harmony of this purpose with a deeper ministry.

We must remember when we design a hospital that there are degrees of beauty not possible to every type of building. A cathedral is made more beautiful than

a garage by merely being a cathedral. A loftiness of idea overcomes the most devastating of architectural incompetencies. I do not think that any hospital could be as beautiful as a cathedral—but I think that one might come nearer to that ideal than is now thought possible.

I happened to see recently a manuscript describing the ancient hospital which the Bishop Maurice de Sully—and after him St. Louis—built in the thirteenth century on the Ile de la Cité of Paris. This manuscript, written in Latin by a *docteur de l'université*, had been translated (I am happy to say) into modern French. The author, who had himself seen the building many times, gives us a vivid picture of what must have been a very beautiful hospital—and I think that you will be interested in reading his description in his own words.

The hospital, he tells us, lay along the south shore of the island, in the narrow space between the cathedral and the river. It extended, parallel to the river, in the form of a series of long, narrow halls opening into each other in much the same way as Pullman cars in a modern train. Each

hall was assigned to a special class of patient: to those suffering from fever, to those who were wounded, to women in childbirth, and to the pilgrims.

These halls were covered with high gabled roofs supported on great oak trusses open to the rooms below. Along the side facing the river were tall, traceried windows admitting great splashes of southern light. The beds, forty in each hall, were arranged in rows against each wall and separated from each other by low screens.

Throughout these halls the nurses—black-robed nuns and the younger novices dressed in white—moved “as if to unseen music”; and among them moved also the more stately *medecins* in their scarlet robes, the barbers, who were the surgeons in those days, in green uniforms; the priests who performed the offices of the church, the chaplains who heard the confessions of the dying, the valets, the servants, the students from the *Ecole de Medecin*, which was newly established on the Left Bank. From the south one heard the noise of the river and of the wind in the linden trees along its bank; to the north the grey towers of Notre Dame announced the periods of canticle and prayer;

and above the long aisles the halls were filled with sunlight, fresh air, and the beautiful spirit of charity. And Jean de Jaudun, a *docteur de l'université* in the College de Navarre, sums up his description in this arresting phrase:

“It seemed to me that the art of medicine and the art of architecture were made one in the service of God.”



When we look back to the thirteenth century, our eyes are no doubt blinded by that romantic light which our poets—and I am afraid our architects also—have cast over that enchanted age. There appears to have been at that time a unity in life and thought—pervaded by ideals of universal scope, expressed in an art of universal splendor—which in our imagination overcomes all that we know of the superstition, cruelty and ignorance which attended it. Our present civilization is broken into pieces.

Our individual lives are also broken into pieces often quite separate and apart. Each of us leads, not one life, but a dozen, and we lead these all at one time—so that those ideas, valuations and modes of argument which belong,

let us say, to family life are quite separate from business life, and those which belong to science cannot be conceived as valid also in art.

This is the great illusion of our age. The Industrial Revolution, the greatest event in human history, shattered our civilization into these fragments. Our vast technologies pile complexity on old complexities unguided by philosophy or moral law; our economy diverges ever further from our culture; and art, once inseparable from science, is reserved now for those moments when science can be no longer endured.

Of all the arts, architecture has suffered most from this disintegration of culture. Without a firm tradition, without popular understanding or aristocratic clientele, without coherence to the changing technologies of construction, our architecture is set adrift from its time. We look backward to the Gothic centuries for the principles of our art and for the masterpieces which we cannot hope to emulate. Medicine, on the other hand, marches with the empirical spirit of our age and is continuously served by the investigations and multiplex inventions of our sciences — so much that we have

almost forgotten that medicine is an art.



Now I do not believe that doctors and architects could, through some act of the will or through some new understanding and sympathy, stay this onward rush of our civilization towards that perfect chaos which is its obvious goal; nor is it likely that beauty, even if allied to medicine, could hold a plea with the destructive forces which assail our time—still less with those terrible engines, and still more terrible misunderstandings, which the war has brought forth. We might nevertheless raise a standard to which (in the words of Washington) others might repair. We might make our hospital a symbol for those who would resist this cultural anarchy—and we may be sure that there are many thousands who await a standard and a symbol. If each of these five hundred new hospitals which are about to spring from our soil were to be a beautiful hospital—not prettified with ornament, or streamlined, or made goofy with Colonial reminiscences, but dignified by the form and pattern of its purpose—

then a new light should shine across this land. A new light and a new hope.

I do not believe that the doctors of medicine who are to guide this inspiring program of our government will be indifferent to architectural excellence in the new hospitals. If they know the true nature and source of that excellence they will want to continue their partnership, tried by long usage, with the architect whose healing and rebuilding is ad-

dressed, like theirs, not to physical sickness only but to that sickness which has invaded the world. Our two arts are very ancient ones; they belong not to this present but to history and the future; their partnership should be confirmed and re-animated by this new promise. We wandered together into this our iron theater; we face together its confusions and barbaric energies; and we must find our way out together. Together, I think, or not at all.

Social Security

By *Electus D. Litchfield*, F.A.I.A.

FOR MANY YEARS, now, practising architects and their employees have made regular contribution to a Social Security Fund. These contributions have been made in good will by both employers and employed, all of whom have recognized the wisdom and helpfulness of the Social Security Law. Franklin Roosevelt made no truer statement than when he said, "The only thing we have to fear is fear itself".

The practising architect, however, is not protected by the Social Security Law. For him, if he is not one of those rare individuals

who has inherited a fortune, or married a rich wife, the wolf lurks ever just around the corner; and though, if he is wise, he endeavors while the going is good to build up a reserve for evil days, now and again he will hear in the distance, if not close at hand, the terrifying baying of the wolf. Because the architect's fees are small, and his mind is set primarily on the creation of efficient, practical and appropriately beautiful architecture rather than on profit, there are few architects who achieve fortunes adequate for lifetime comfort, or in any sense comparable to

OCTOBER, 1947

those possible to men of equal standing in the legal profession, to say nothing of the rewards to those in commercial life.

Due to the fluctuating curve of business activity, with its often spectacular rise and deplorable descent into the depths, the architect's financial return from the practice of his profession varies largely from year to year. Even his successful years of feverish activity and high financial return are often followed by continuing periods of diminishing return. Now and again it has tragically happened that the most distinguished leaders in our profession have ended their careers in want or have died leaving their immediate families destitute.

It is high time that the profession of architecture meet this issue by establishing its own social security system. The draftsman is taken care of, and a fund, meager as it may be, is built up under Government auspices for use in his days of unemployment and retirement. The employees of all large corporations are similarly provided for. Included in the benefits of the Social Security System are top executives and other officials, and in many cases addi-

tional retiring pensions and death benefits are provided by the commercial companies themselves.

The architect remains outside the protection of any of these funds. He does not share in the financial possibilities which are open to the principal of an established business, nor in the protection which is provided for his own employees. Because his professional remuneration is usually based on a percentage of the cost of the undertaking, he is in a special but very distinct sense an employee of his client. It should not be impossible to set up with the aid of his client and with the cooperation of the architect himself, a fund which would provide for a reasonable pension upon his retirement, and for the benefit of his immediate family upon his death.

I have long been convinced that while there are certain technicalities in connection with the setting up and operation of such a fund, which might require legislation, the only real bar to its creation lies in the lethargy of the architects themselves. Basically, the scheme of operation could be very simple. A charge, say, of 5% of the face of each bill for professional service should be paid by the client and a contribution of an equal

amount should simultaneously be made to the fund by the practising architect himself. Actuaries would have to say whether this percentage would be sufficient or might be reduced, but I am confi-

dent that the average client would be willing to make his contribution and that the architect could not afford to refuse. It is time that we established an Architects' Retirement Fund!

Published Comments on the United Nations Headquarters

"The best modern piece of planning I have seen."—PHILIP C. JOHNSON, architectural adviser to the Museum of Modern Art.

"What is wrong with their 'diabolical dream' is its isolation from historic thought, its independence of the accumulated feelings of centuries. They have sketched the 'new world capitol' as if it were something completely out of touch with the achievements, the hopes and the prayers of humanity since written records first were kept." — Editorial, *Washington Star*.

"A completely workmanlike job."—HENRY WRIGHT, Managing Editor, *Architectural Forum*.

"The building and landscaping of the six-block mid-Manhattan site will be the focal point of the

entire rehabilitation of the East Side from the Battery to Harlem." —NEWBOLD MORRIS, New York City Planning Commission.

"A super-crate, to ship a fiasco to hell."—FRANK LLOYD WRIGHT.

"The proposed plans utilize and capitalize to the full all the advantages and possibilities offered by the midtown location."—KENNETH K. STOWELL, Editor *Architectural Record*.

"Most opponents of the present center's design agree that acceptance of the Rockefeller Gift was a mistake to begin with, huddling the representatives of all nations in a six-block area surrounded by slums, confronted with almost intolerable weather, and heckled by the hustling, bustling millions in the world's most civi-

lized but most inhuman city."—
JAMES P. FELTON, Editor of
Script, Los Angeles.

"The planning committee has
so far indicated excellent judg-
ment in its work and should pro-
duce an outstanding and good
plan."—WILLIAM F. LAMB,
F.A.I.A.

"Although the buildings are
still in the formulative stage, the
designers have combined the tall

skyscraper building and the low-
lying General Assembly chambers,
and developed a pleasing and sensi-
ble contrast."—HAROLD R.
SLEEPER, president of the New
York Chapter, A.I.A.

"This new treatment of deal-
ing with traffic in terms of super-
blocks at last gets away from the
outdated 'horse and buggy' tradi-
tion of planning city development
block by block."—MORRIS K.
KETCHUM, Jr.

What Is an Estimator?

By R. D. Sannit

This article is one of a series in which the author plans to review
some of the time-worn methods used by architects in inviting
competitive bids, and by contractors in preparing estimates. Sub-
sequent articles will attempt to develop possibilities of improving
estimating practices without disrupting the normal flow of building
projects.—Editor.

SOME YEARS AGO, Mayor La
Guardia gave the New York
City street cleaners a new name.
He called them "Sanitary Engi-
neers". This was to give prestige
and dignity to a once lowly pro-
fession. Just how the men who
design structures, run locomotives,
or build bridges, felt about it was
never revealed. But it did show
how widely the term "engineer"
can be used and misused.

The same is true with the term
"estimator". We can ignore the

many positions outside of the build-
ing industry that are so labelled,
and we still find plenty of leeway.
It seems that anybody who does
anything between the time the
architect completes his drawings
and the contractor submits his bid
is called an estimator. This is too
broad a focus. With it, we can't
see the many steps involved in pre-
paring a bid. No one man can do
them all correctly within the time
given for submitting the bid.

When we analyze the work of

preparing a bid, we find it falls into two categories. Only one of these can be done with true mathematical precision. That is the process of determining the quantities and types of material required for the structure.

The other is pricing, which is wholly a matter of judgment. It is based on the use of past experience and present conditions—with varying degrees of clairvoyance, and perhaps a little crystal-gazing thrown in.

You can see that the two processes require different names. We might label the pricing phase "estimating", for it cannot be done with absolute accuracy. Pricing comes entirely under the jurisdiction of the contractor. So it need not concern us here except that it is dependent on the first process.

The man who computes the amounts and types of materials required from the drawings is often called an estimator. His correct title should be "quantity surveyor". Surveyor is a good name; a land surveyor can get absolute accuracy; and a quantity surveyor can do likewise. A proposed building will require a fixed amount of materials. That amount can be predetermined by the quantity

surveyor who uses the right methods.

Since the quantity surveyor is the subject of this article, perhaps the title should be: "What Is A Quantity Surveyor, and How Does His Work Affect the Architect?"

The quantity surveyor is a translator. He converts the language of the architect (drawings and specifications) into the language of the builder (material costs and man hours).

His idea is to reduce the various items in the building to a uniform basis of figuring. He works toward the common denominator—dollars and cents—into which the contractor must change all work so it can be added into the total cost.

The quantity surveyor constructs the building in his mind as he takes off the work. So he gives the drawings and specifications their first practical check outside of the architect's office. And, in this, he can be both the architect's severest critic and, potentially, his best assistant. For only in the actual field construction are the plans given an equally thorough study. And then changes and corrections—if they can be made at all—are very costly.

It is easy to see just how completely the quantity surveyor digests the drawings. He must reflect every item of cost. The mere listing of quantities is not sufficient. He must describe each item in a way that it will show any change in cost—above or below the normal unit price for work of a similar nature.

His first duty, of course, is to assemble the information on the drawings so that it can be readily priced. This is a highly complex process. So much so, that I doubt if there is in the country, today, any one quantity surveyor who can take off every material on a building, and list it accurately for direct pricing.

That shows how highly departmentalized construction has become; and how far behind we are in coordinating the industry.

Almost anyone who knows a floor plan from an elevation could take off quantities—if it were only a matter of listing square feet or cubic yards. What makes the quantity surveyor a skilled technician is his ability to take off and list each material in the exact manner in which it is priced. And to make clear, as well, the changes that affect the price normally used.

To do this correctly, the quan-

tity surveyor must have a thorough understanding of architectural and structural drawings; a knowledge of field construction practices; a working familiarity with the materials (manufacture and distribution); and, to top it all, a good idea of how to price.

That is a big order.

This is how the quantity surveyor must list some of his items when figuring concrete:

Pile caps in cu. yds.

Continuous wall footings in cu. yds.

Column footings in cu. yds.

Grade beams in cu. yds.

Foundation walls in cu. yds.

Columns in cu. yds.

Slabs on ground in sq. ft. and cu. yds.

Shored and suspended slabs in sq. ft. and cu. yds.

Beams and girders in cu. yds.

All these he lists according to the mix specified; with notes on special conditions such as odd shapes and difficult pours.

He lists form work for concrete in square feet of contact area, according to the pour. Footing, wall and slab forms on large areas are shown in square feet. Special listing is needed for beam bottoms, beam sides, spandrel beams, curbs, etc. He gives these in lineal or square feet, depending on their size.

He shows the concrete finishes in square feet by type. Then he sets up items for supervision, runways, winter protection, tarpaulins, etc., as required.

Masonry is taken off by the square foot for the various wall thicknesses, then converted to masonry units according to the type and size. The constant used to obtain the number of brick per square foot of wall is worked up from the size of the brick, the wall thickness, and the thickness of the mortar joint. When the drawings are sufficiently detailed, the brickwork can be taken off by the course. This is a far more accurate method. And it is here the quantity surveyor mentally lays up the job, brick by brick.

Mortar is listed by the cubic yard according to the composition. Cleaning and pointing of exposed brick surfaces are listed in square feet and the joint-tooling noted as may be specified. Supervision, scaffolding and equipment are then listed to cover the job.

The above are trades with which the general contractor's quantity surveyor is familiar. Some trades are so specialized that they can be figured accurately only by subcontractors.

The division of Glass and Glaz-

ing is probably the most difficult to price of all the materials in the building industry. What makes it so complicated is the fact that the unit price *per square foot* increases as the size of the light of glass increases. To add to the complications, there is the great variety of glass types for the architect's choice.

These are a few with their method of pricing:

Window glass: single-strength and double-strength, in quality "AA", "A", and "B", priced by the box. (A box contains 50 sq. ft. of glass, or the nearest multiple to it of the size light.)

Crystal sheet glass: 3/16" thick; priced by the graduated sq. ft.

Rolled, and rolled-figured obscure glass; 1/8", and thicker; by the sq. ft.

Plate glass: 1/8", 1/4", and thicker; by the graduated sq. ft.

With few exceptions, glass is figured at a nominal size of the nearest two-inch dimension, both ways, from which the light is cut.

Structural glass is priced on a flat square-foot basis.

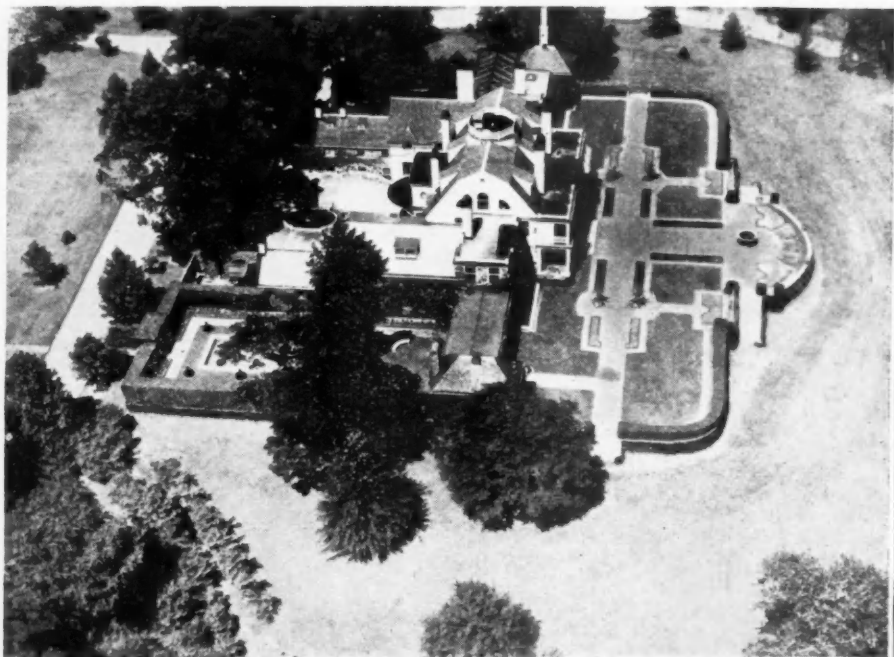
The installation method can also be chosen from a large number of types, according to needs and tastes. There is glass in wood



LA VINA SANATORIUM
ALTADENA, CALIF.

MYRON HUNT AND H. C. CHAMBERS, ARCHITECTS

Photograph by George D. Haight



COUNTRY HOME OF THE LATE ERNEST FLAGG, F.A.I.A.
DONGAN HILLS, STATEN ISLAND, N. Y.

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sash, or wood beads; in steel sash with putty and clips, or metal angles; in store-front metal, etc. Each has its own unit price per light, per square foot, or percentage of list price.

Painting is not nearly so complicated an item as glass where materials are concerned. But, what it lacks in difficulty here, it makes up in complicated take-off. There are so many different types of surfaces to be covered that the quantity surveyor for painting touches on almost every trade in the building.

He lists large flat surfaces, such as walls or ceilings, by the square foot, or square yard; trim by the lineal foot; sash and doors by the square foot and number of sides. The kind of surface to be painted and the details must also be given.

All must be segregated as to the method of pricing, the number of coats to be applied, as well as the type of surface, and the accessibility to it.

The quantity surveyor must also know his values. His summary must reflect every item of cost—either above or less than the normal unit price which he knows will be applied to his quantities.

Thus in a take-off of Concrete, two shored slabs may be of identi-

cal nature, and contain the same area and cubic yardage. Yet conditions can be such that one may be more expensive than the other.

In glass, a factory job containing row after row of steel sash is less expensive to glaze, *per light*, than a warehouse having a single window here and another several hundred feet away. The difference in cost is in the fact that the labor time involved is less, *per light*, on a long run of sash than it is on isolated units.

The quantity surveyor tries to summarize only what the architect shows on the drawings. He is not interested in design—either functional, structural, or esthetic—for all that is out of his field. But within the range that he does operate, he gives the drawings an excellent check.

If he takes his quantities off the floor plan, he checks them against the elevations. He is constantly coordinating the two. He looks for and studies large-scale details to find out how particular points are treated. He always matches the different elevations at various parts of the building. In this way, he picks up discrepancies as a matter of course.

Perfection in drawings is an admirable feature. But, a draftsman

is not a precision instrument. And the infinite amount of plans, details, sections and elevations that must be coordinated in a large building opens the way to error. We must consider the human element; and the quantity surveyor is a good safeguard against such errors.

The quantity surveyor knows nothing about structural values—stresses, strains, and load factors; and he is the first to admit it. What does concern him, however, is the practicalness of the design—not for utility, nor stability, but for construction. That is his sphere, for he translates the architect's pictures—graphic and word—into the contractor's costs.

He must be qualified to pass on what can be done easily, what is extra difficult (i.e., costly), and what is impossible. If properly trained, he is always planning how to do the work in the least costly manner.

In the matter of specifications, the quantity surveyor again provides a thorough screening. He must know his materials—who manufactures them, and what the "equals" are. So he becomes a qualified judge of the specifications.

Most specifications are the neglected stepchild on a project.

They usually abound in errors and discrepancies. Certain of these are quite obvious, and are easily discounted by the quantity surveyor. For example, we still see, occasionally, this note under glazing: "Glass shall be set with the bowed side to the weather". We know, of course, that it was copied from an ancient file. To my knowledge, no cylinder window glass has been produced commercially for fifteen years.

The quantity surveyor combs the specification further for the segregation of trades. Construction as practised today consists mostly of work done by subcontractors. Some general contractors sublet all the work on a building, including the concrete and carpentry.

So the quantity surveyor has two things to look for in the specifications, besides reading them for the information they give on the job. He must see that the contractor does not leave out anything. And he must also see that no item of work is included in more than one section of the specifications. Here the duplication, and the resultant increase in price, would cause his bid to be high.

Duplication is not so rare an

occurrence as one might think. Sometimes it is caught, and sometimes the owner pays twice for an item that can, of course, be installed only once.

The quantity surveyor for the general contractor does not take off all the items. But he must analyze all the sections of the specifications and the sub bids he receives for such omissions or overlapping of work.

We can see a good example of this in the inter-relationship of millwork, glazing, and painting. Take the item of wood sash. In many localities they are glazed at the mill, and, in some places they are even primed there. Here three trades are involved. Duplication or omissions can easily result, if proper segregation and analysis is not made. The glass subcontractor might have the glass for the wood sash listed in his specifications; so he might figure it. The painter might have the priming of wood sash in his specifications; and he too might figure it. The millwork subcontractor, following local practice, might figure both the glazing and the priming in his price for the sash. And, the reverse could be true, if each subcontractor decides to leave out the glazing and priming on the as-

sumption that the others will include them.

In the matter of costs, the quantity surveyor can be very helpful to the architect. He must be cost conscious, for money is the language he is translating into. He gives the plans so thorough a check that he is in a good position to criticize the proposed building from the standpoint of costs.

He can suggest changes that will not affect the appearance, design or utility of the building, but which may save a considerable amount when applied diligently to all possibilities.

Thus, in his role as translator, the quantity surveyor must first understand, completely, the architect's drawings and specifications. He then reflects every item of cost—either direct, indirect or contingent. Quantities are his language, method of installation is his grammar, and trade classification is his punctuation.

There is no more thorough check of the architect's drawings than that made in the process of preparing an accurate quantity survey. And it may be said that a structure whose drawings cannot be taken off, cannot be built.

The architect, so to speak, is in the hands of the quantity surveyor,

and the better drawings he gives him, the better job he does—and, of course, the more economical the construction.

What has all this to do with the architectural profession?

Well, the quantity surveyor, in his work, judges drawings from many angles. He sees more than the drafting-room checker, because he approaches the drawings in an entirely different light. He will know whether the materials available have been used to best advantage and economy—after design, utility and appearance have been satisfied. He is very valuable to the architect in combing the drawings and specifications for discrepancies, omissions and duplications.

I know of no architect who can, or will, brag that he need not pay any attention to cost; that anything he designs will be built regardless of price.

Many buildings have come out for bids recently. They have gone through the costly process of estimating—to say nothing of the cost in the architect's office—only to find the lowest bid price is far above the appropriation.

There is absolutely no excuse for this. If anything, it is indicative of how long-suffering the in-

dustry is, and how much room there is for more efficient methods of doing the necessary preliminaries to actual construction.

There is no charge for estimating. But, the owner pays for the service in the long run—just as any consumer absorbs all business costs when he buys something.

On the jobs that overrun the appropriation, the contractor is often asked to suggest economies—without changing the size, design, utility or appearance of the job. Whereupon the quantity surveyor is called in. He can pick out savings in the best of plans.

At present, however, the architect does not benefit much from the work of the quantity surveyor. For it is all done *after* the plans have been issued for bids. Then all changes are costly—even deductions.

Equally wasteful is the practice of letting improperly trained men make the quantity survey. For then the architect receives no benefit whatsoever. And the architect, the contractor and even the owner can be hurt by a poorly prepared survey.

A closer liaison between the architect and the quantity sur-

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veyor would be of mutual benefit. Certainly more understanding of each other's problems would help the profession and the industry. For neither the architect

nor the contractor can long continue all their present inefficient practices. Progress is breathing hard down their necks. And it threatens to by-pass them.

The Perfect Kitchen and How to Make Out with It

By Edwin Bateman Morris

ONE OF THE GREATEST BOONS to housewives is the made-to-measure kitchen—in U-shaped pattern, gored and pleated to fit snugly say a size thirty-eight. Thus, standing in position facing the sink, the size thirty-eight can, after learning the touch system, reach her baking-soda, egg-beater, paring-knife, etc., without moving eyes from cook-book.

While at the moment the garbage can is a difficulty, since the antiquated treadle type is still in general use, some day an ingenious person will doubtless invent a container whose top will stay continuously open, so that accurate approach shots may be made from the sink position. Otherwise the fitted kitchen is the great advance in modern house planning—for one person. Designed by man, it effectually eliminates post-pran-

dial dish-responsibility for the husband.

However, it often does become necessary for two women to help each other, as they laughingly say, in such a kitchen, in which case new problems are presented. Endeavors of one or both to stoop cause amusing but time-consuming juxtaposition, especially where the juxta juts somewhat.

The best experts on household affairs recommend therefore a hands-and-knees position for one worker, who will pass up pots, pans and pressure-cookers from the bathosphere. Surfacing, she then takes stance abaft the sink lady, finding eggs and onions as may be needed, being careful to avoid the elbow-in-eye routine. Thus, with many a quip and amusing remark, time passes quickly. If a third

person comes to help it is best to abandon the project.

A maneuver which is usually complicated for the kitchen pair is the change of position. However, this must not be made more difficult than it actually is. When a person occupying the sink position must change to the stove position, it is only necessary for the two workers to file into the living-room, reverse their order and file back again.

Accomplishing this result by standing on the edges of drawers so as to raise the center of gravity above counter level, and thus pass

somewhat in the manner of changing places in a canoe, is not approved. With practice and patience two persons can thus learn to work in the compact kitchen so as to accomplish as much, perhaps even more, than one person.

In this manner, with pleasant companionship, palatable meals can be prepared for guests, resulting in delightful and memorable occasions. It is more desirable, perhaps, if there is a good moderate-priced restaurant not too far distant, to make use of such facilities.



Ralph Waldo Emerson Wrote This

SCULPTURE in Egypt, and in Greece, grew up in subordination to architecture. It was the ornament of the temple wall: at first, a rude relief carved on pediments, then the relief became bolder, and a head or arm was projected from the wall, the groups being still arranged with reference to the building, which serves also as a frame to build the figures; and when, at

last, the greatest freedom of style and treatment was reached, the prevailing genius of architecture still enforced a certain calmness and continence in the statue. As soon as the statue was begun for itself and with no reference to the temple or palace, the art began to decline: freak, extravagance, and exhibition, took the place of the old temperance.

OCTOBER, 1947

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A. I. A. Insignia, Past and Present

DILIGENT SEARCH through musty volumes of Convention proceedings and Board of Directors meetings has revealed at least a few facts in the history of Institute insignia. Members of The A. I. A., in the long march of the organization, seem never to have had much of a yen for identifying themselves by means of pin or button.

Whenever, through the years, the subject has been brought up officially, it usually has been to discredit the existing badge and call for the designing of a better one. Then, the change having laboriously been made, one is sure to hear complaints that the new one is inferior to the old and never should have replaced it. Years pass and the cycle is repeated. To-day we hear oldtimers, who may never have owned a button, bewail the replacement of the blue-and-gold design by the maroon-and-gold octagon.

It was at the Convention of 1893 that the first device was formally adopted—the lozenge shape (page 173). That 27th Annual Convention was held in Chicago in the Memorial Art Palace of the

World's Columbian Exposition. In the dazzling brilliance of the "White City", the architects may have felt that this was the time to proclaim their allegiance to a profession that had suddenly assumed a new strength and leadership.

The design is a close approximation of the seal that had been appearing on the first page of the printed Proceedings. Who suggested the need for it, and whose was the responsibility for the design are not recorded. All we have is a resolution made on the floor of the 1893 Convention:

"MR. A. J. BLOOR: The members have seen the badges which have just been sent to the secretary by Mr. R. Howland Hunt. I move that the badge be adopted as the permanent and official badge of The Institute, and, if it is necessary, that the design be copyrighted to prevent its being worn by people who have no interest in wearing it.

"The motion was seconded and carried."

The years rolled on. Just a quarter century later, in 1918, we find H. Van Buren Magonigle made chairman of a Committee on Institute Insignia. He circular-

ized the chapters as to their wishes. Few chapters responded, as was, and still is, customary. No design had been shown, and no chapter wanted to buy a pig in a poke. The Boston Society, however, was in no doubt whatever; they wanted no pin, no button, no insignia of any kind—it was a grave question whether a gentleman should thus label himself.

But the idea could not be squelched. Three years later a Board meeting heard that there was an insistent demand from many chapters. Robert D. Kohn was requested to consult with Medallic Art Company and submit designs and prices—this time not only for a lapel device but for a watch fob as well. A few months later he reported back to The Board and the blue-and-gold button was formally adopted, November, 1921. The watch fob seems to have been sunk without trace.

The years pass, and in November, 1931 the Board appointed a committee of three "to study the problem of securing an original and meritorious design for the pin." Who these committee members were is not known. Nor is there any subsequent reference in

the minutes to them or to their accomplishments.

Again, in 1944, the Board responded to the desire of many members that a new pin or button be designed. Designs were sought, developed and considered. Legibility and distinctive form were the chief criteria. The old button could not be read at three-foot range, and the circular form was shared by too many organizations. The civil engineers' shield with simple lettering was widely admired. It was readily identified and the A.S.C.E. members wore it with pride. War experience had shown that important jobs on the various fronts were often entrusted without further question to the bearer of the A.S.C.E. shield. And the engineers wore them — almost with the fanatical devotion of the college fraternity man.

It took two years to develop a design that seemed to fulfill all requirements, and in spite of the hauteur displayed by men of The Hub to Magonigle in 1918, the design came out of Massachusetts through Joseph D. Leland's labors with the jewelry firm of L. G. Balfour Company of Attleboro.

The Board at its semiannual meeting in New Orleans, Decem-

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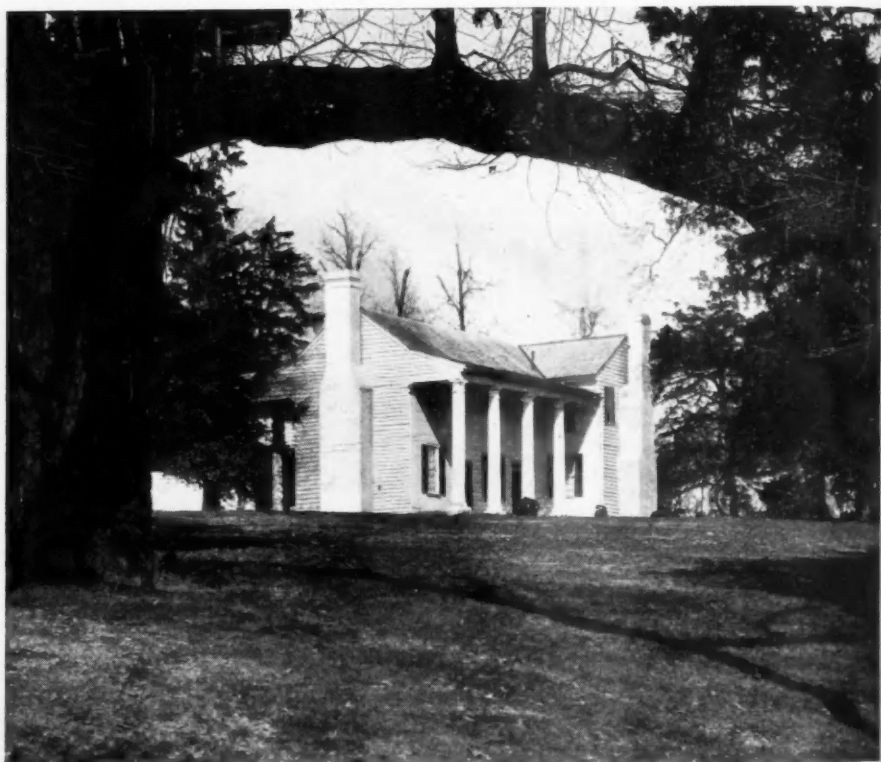
PAST AND PRESENT
INSIGNIA OF
THE A.I.A.
FOR CORPORATE MEMBERS

OFFICIALLY ADOPTED, 1893

OFFICIALLY ADOPTED, 1921

OFFICIALLY ADOPTED, 1947

The reproductions are at
actual size.



Do you know this building?

"FORT HILL," THE JOHN C. CALHOUN HOUSE (c. 1840)
CLEMSON, S. C.

*Journal
The AIA*

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ber, 1946, entrusted Mr. Leland, with Edgar I. Williams and Douglas William Orr, with the task "to secure and approve a design for an emblem of corporate membership in The Institute". The maroon-and-gold octagonal insignia is the end product.

Its making was not uneventful, as The Institute members have been told. When the first consignment of pins and buttons was received, in time to go on sale at the Grand Rapids Convention, the committee found that the color was not as specified and approved in a preliminary sample. There seemed insufficient contrast between background and gold lettering. Although a number of these pins and buttons had been purchased by members, the manufacturer agreed to replace these and the whole consignment and

make them over in the approved color.

As has been announced from The Octagon, any member who bought one of the first lot may have it replaced with one of the proper color, by sending it with such a request to the manufacturer. Each pin or button is numbered on the back and this number registered at The Octagon in connection with the owner's name. In spite of devaluation of the dollar, the cost of metal and the price of brick, The A.I.A. insignia sells for \$6, only one dollar more than the little round button adopted in 1921. Orders for the insignia should be addressed to The Octagon and should specify whether the pin form or button is desired. They should also be accompanied by a check—the opening of these small accounts is not practicable.

Let's Have Some Fun

By Edward Steese

IT IS SOME TIME since that admirable sage, E. B. Morris, wrote an article for the JOURNAL which suggested this title to me for the following remarks. A recent letter of mine published in the New York *Herald-Tribune*, which might be misinterpreted,

moves me to do something about it. The sad case of the Harvard professor who recommended the destruction or emasculation of intelligent youngsters in the cause of peace may be recalled; on a lesser scale, my recommendation of Neapolitan Baroque as an anti-

dote for present architectural ills might be likewise misconstrued. Never joke in public, even though there be wisdom in the jest: some long-nosed, near-sighted theorist will fall upon you and accuse you—not of course of *lèse-majesté* (which would be popular today) but of mere levity or *joie-de-vivre*—either today a serious offense.

Nevertheless, where I recommended the most extreme type of baroque, I was more than half-way serious. Where now, except occasionally for a perisphere, is there evidence of architectural design except that of T-square and triangle? Does not one need somewhere or other, even in so fine a group as Rockefeller Center, the evidence of a French curve—or that joyous free-style vivacity which even in the stern restraint of Herrera's work (surely the Escorial is one of the grandest structures of the world) occasionally lifts the eye and mind with soaring curves of draperies and puttified marble clouds or, as in the *Jesu* at Rome, splendiferous splashings of gold and lapis lazuli?—for those of more serious mind, the grave repose of the Romanesque, the grace of the Gothic arch?

Not long ago I observed a show

of drawings made at an architectural school. They were renderings of a *projet* which I suppose even in my own not too late day would have been graced by at least some attempt at mere artistry, but these were to the observer no more readily legible than working drawings, and their only variation from the T-square and 90°-angle was to imitate at times the misshapen rooms popularized (in view of a certain site, to be sure) by a famous originator. The renderings, whether of plan or elevation, all drawn with a ruling-pen, even to the highlights along the edges, were—where color was used—no more than fancy charts to indicate here or there a change in structure or material, like the hatchings on a blueprint to indicate brick or tile.

I will not now go into the question of my belief that a rendered drawing is made so that the observer may find his way around a plan at first sight—that is another matter. What I do want to observe is that a group of serious young men had apparently had no *fun* out of their serious rendering of a theoretical problem. They had worked without obvious inspiration and certainly without

that bravura that used to win so many medals.

Now the great fun of architecture in school was once that nobody was tied down to the hard facts of practice, and I think that was a good thing, though many will disagree with me. But I also think that in an ideal practice, in fact in any practice, the architect can to advantage have *some* fun *somewhere* in the designs. My beloved master, Thomas Hastings, always approached any problem with joyous excitement, which in turn he was able to communicate to the client and to his entire staff—and this applied to the most modest kind of alteration as well as to the great schemes for which he was best known. Once the *functional plan* was established, the choice of just the right molding or ornament was as much a matter of immediate importance as the long study devoted to the design of a memorial colonnade or the cornice or entrance of some great building. If the young draftsman did not catch the idea right away he was encouraged to *bouquiner* in the library until something might *suggest* to him the ultimately right solution: it was not copying, but getting into the spirit of the thing.

It seems to me that this is what is so *very* important, as I perhaps once indicated in an article called "The Music Makers"; but the mechanized architectural treatments of today allow little room for spirit of any kind. Surely if someone wants to put here or there on a building, at some appropriate and pleasing point, a little classical or other ornament, why should he not do so?—and speaking of functionalism, did he not learn long ago that all good ornament is functional in derivation? There are excellent reasons besides esthetic for the use of moldings, whether in wood or stone, and the ornament traditionally applied is the *right* one merely because it has never been and cannot be bettered.

This takes us back to the beginnings of things—the reasons for certain types of ornament in certain places, which until a few years ago were merely accepted as almost necessary in giving proper accent to plan and structure; and we were of course brought up to believe they all had some basis in past function. That may be true, to be sure, in the case of the Doric Order's being derived from joinery, but as to the Ionic and Corinthian I think, if I am not mis-

taken, they were due chiefly to the imagination of successive artists who enjoyed giving grace and charm to their creations. I am sure these did not concern themselves very much with expressing or suppressing functions, but were merely giving themselves and others pleasure by beautifying the structure they were employed to erect. This, of course, is what I mean by *fun*.

It is justifiable to suppose that many of the motifs of plant or animal derivation had originally some religious significance—some archeologists go so far as to see a phallic motif in even the most harmless looking leaf or egg design—but we have long since passed beyond the awareness of sources and our own civilization is best expressed by our casual acceptance of that ornament most appropriate to the shape to be decorated. (Probably no need to refer to the figleaf.) One thing which may well bother the purist, however, is that from the earliest times it has been an artist's function to imitate one thing in another, usually in a more permanent, material. One of the earliest of decorated sarcophagi is an obvious imitation of a reed hut.

The modernist, of course, will

have no truck with such matters, and does not imitate wood in concrete, or wood or plant in stone—though he does on the other hand make great nonsense by the elimination of cover-molds between two surfaces of different expansion-factors. A simple case is the frequent one of making a steel or wood door frame flush with a plaster surface, in the hope that no crack will show. This is merely bad design. There is a good historically logical reason for almost every molding used, in whatever material; and given the molding, no reason not to decorate it if desired. If, however, as I take it, the "artistic" side of architecture might be said to stem from the mere imitation of something else, it is only because man is made that way. He sees a bare form or surface of stone or wood and in his spare time decides to prettify it. In a primitive state he gets out his stone axe or bronze knife and begins to chop or whittle, as the case may be. He wants to amuse himself—and he wants the thing to "look nice". All at once, unconsciously, he is an artist.

This, of course, is all very elementary. On a large scale, the artist gets tired of straight lines and tries out a swooping curve to

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grace the form of his simple structure. It is that curve I think so important in these depressed days when architecture is taught and practised on a basis of sociological charts and graphs as to *minimum* physical needs (for the perpetuation of life in a manner not worth living) and by preimposed modules which make design easy—and perhaps uninterestingly uniform. This does not mean I oppose a module system. I do not think, however, that it need be carried further than it was by its great father, Ernest Flagg, many years ago.

The Greeks are supposed to have used a module system and "Dynamic Symmetry" in their design—but I think both can be superimposed on the Greek creations merely because these are artistically "right". As to the curve, it is only a question whether the human body and the absurdly streamlined automobile should be the only evidences of roundness or fluidity on view. The straight line, according to Einstein is, after all, *not* the shortest distance between two points, and if the human spirit is to soar, it probably will not therefore do it on a straight line; though whether it will be on a parabolic or hyperbolic curve I

am neither theologian nor mathematician enough to say. I hope it will not be the descending spiral of a certain proposed museum.

That is why, in my letter to the *Herald-Tribune*, I recommended as an antidote for too much seriousness a dose of "Neapolitan Baroque"—though I might have more conservatively recommended the Austrian or even the Russian brand, or that of Louis XV. I hate to think of a United Nations conference unconsciously influenced by the severe statistical lines of the "International Style"; I like to see each nation free to express itself artistically as well as politically, and think a kind of world's fair would be more appropriate—and *a lot more fun*. We could still, in the Willkiean and artistic sense, be "One World", and a little charming foolery here or there might, as in ages past, "soften the heart of the bear"—or was it a cow, according to Lear? It might even make it a mopsicum-flopsicum bear.

I see I am getting beyond my original purpose, which was seriously architectural only—but it has been *fun*, at least within the modest limits of what I like to consider my professional standing. This I have never had the

courage to present for question, but I think it could be impugned only on the point that I have always considered Architecture to be an Art—and have been mildly disappointed. I want, however, to

express one basic idea: We work to live and to enjoy—then let us enjoy while we work. The profession and *art* of architecture grants us this almost unique privilege.

Richard Morris Hunt

1828—1895

By Henry Van Brunt, F.A.I.A.

Our national architectural history is short, compared with old-world countries. Perhaps on that account we pay it so little attention, so little reverence. Its personalities, with a few exceptions, are almost unknown to the present generation. For instance, the man whose likeness appears on the front cover of this issue of the Journal. The following comprises very brief excerpts from the eulogy delivered by one of Hunt's distinguished contemporaries before the 29th Convention of The Institute in 1895—in grateful memory of one of the giants of our profession.—Editor.

I SHALL NOT HERE ATTEMPT a detailed biography of Richard Morris Hunt, with all the dates, all the incidents, accidents, honors and accomplishments of his varied career. . . .

He was born at Brattleboro, Vermont, October 31, 1828. He died at Newport, Rhode Island, July 31, 1895. In three months more the full measure of his life would have been sixty-seven years. He was the fourth of the five children of the Hon. Jonathan Hunt and of his wife, Jane Maria Leavitt, both descended from old New England stock. His father, a gentleman of ample means and high

consideration in Vermont, represented that Commonwealth in Congress from 1827 to 1832, and died in Washington while in the public service. The education and training of the young children thus fell into the hands of the maternal grandmother, and of the mother. . . . She lived to see two of her sons, William and Richard, recognized by the civilized world as the most conspicuous and most imposing forces in the development of our national art, the one in painting, the other in architecture, and both are the most lovable and most fascinating of men.

Richard's earliest training was

OCTOBER, 1947

mainly in a private school in New Haven, and in the public schools of Boston. But he was only fifteen years of age when the family moved to Europe and took residence in Geneva, where, following that inborn instinct for art which responds so generously to culture, he studied architecture and drawing for five years in the atelier of Samuel Darier. This experience determined his career, and in 1848 Richard confirmed it by entering the Ecole des Beaux-Arts of Paris as an *élève* in the atelier of Hector Martin Lefuel, who thus became his patron. . . .

There were six of these abundant years of study and travel for the brilliant young American, and when his patron, Lefuel, was appointed to succeed Visconti as architect of the new works of the Louvre, by which Napoleon III desired to make fitting monumental record of his reign, he procured for his favorite pupil a government appointment as inspector of works, and, in that capacity, gave him supervision over the construction of the Pavillion de la Bibliothèque. He was only twenty-six years of age when he entered upon this important duty and he amply justified the singular confidence reposed in him. There is

a certain picturesque surprise in the spectacle of a Yankee lad giving form and character to one of the imperial monuments of France. In a letter to Mrs. Hunt written in 1867, Lefuel said: "My greatest work was done while dear Dick worked with me, and he can justly claim a great share of its success. . . ." This semi-independent position was the opportunity which the ambition of Hunt most needed and most ardently desired. It gave him practical experience in a work illustrating on a great scale just those qualities of academic architecture most congenial to him, and it is a pleasure for us, his pupils, his friends and countrymen, to observe that the part of the new Louvre most remarkable for elegant reserve and temperance of expression . . . is certainly the Pavillion de la Bibliothèque.

In 1855, in his twenty-seventh year, after an education and training such as no American architect had before or, indeed, has since enjoyed, Hunt returned to his native land, accredited as an ambassador of art from the abounding wealth of the old world to the infinite possibilities of the new. He immediately sought and obtained employment with Thomas U. Walter, afterwards the second

president of this Institute, and then architect of the Capitol extensions at Washington. After six months of this service he returned to New York and began the independent practice of his profession.

This beginning was, as usual with all beginnings, small, uncertain and beset with disappointments. The new world was not then hospitable to such high ideals, such noble enthusiasms, as this first American thoroughbred brought with him from the schools of Paris. He found himself an exile in his own country, and, if he had not been inspired by a patriotic ardor and hopefulness which possessed his whole heart to the end, he would more than once have been tempted to listen to the ardent entreaties of his old comrades in art, who, with sympathetic affection, were eager to welcome him back to the more congenial atmosphere of the old world. . . .

At this point began my own association with Hunt. Those of us who were fortunate enough to be placed under the immediate influence of Hunt as his pupils will never forget either the wealth of his resources or the inspiring nature of his instruction. These resources were placed at our disposal with a most lavish hand, and,

under the vehement and strenuous manner of the master we quickly discovered the truth and tenderness of his heart. The study of architecture at that time was pursued under the most discouraging conditions. The art was ill understood and indeed hardly respected by the public. There were no schools in which it was recognized as a desirable subject for study. There were but few books available and our traditions were eminently provincial. Examples of good work were so rare that our ideals of perfection were incoherent and doubtful, and were swayed, now in one direction and now in another, by the literary warfare then prevailing between Gothic and Classic camps. Mediaevalism was sustaining itself by the religious ardor of Pugin and the brilliant rhetoric and poetic imagery of Ruskin. Sentiment was keenly aroused, but discipline was silent. But, though the atmosphere was thick with prejudice and controversy, there was an intellectual movement in the midst of it exceedingly attractive to young men of education and artistic instincts.

In the autumn of 1858, three earnest aspirants for architectural knowledge applied to Hunt, who

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had then just completed the Tenth Street Studio Building in New York, to take one of the studios himself and install them as his pupils. One of these applicants, our present honored vice-president, George B. Post, had just graduated from the Engineering School of the New York University; the other two were Charles D. Gambrill and myself, who, since their graduation at Harvard four years before, had been pursuing the study of architecture under the somewhat discouraging conditions which then prevailed.

With the noble generosity of the true artist, Hunt granted our request and equipped one of the studios for our use. Early in the following year we were joined by William R. Ware, now one of the most honored and best beloved names in the history of American architecture, and subsequently by Frank Furness, our comrade from Philadelphia, and by Edmund Quincy and E. L. Hyde, who never practiced our art. Thus we together entered upon an era so rich, so full of surprise and delight that it seems, as we look back upon it, as if once more in the world the joy of the Renaissance, the white light of knowledge had broken in upon the super-

stitutions of romance. . . . But if the disciples were glad to learn, the master was generous to teach.

His own studio and home at that time were in the old University Building on Washington Square. Here he lived as bachelor in spacious and lofty apartments, filled with the spoils of foreign travel. Here were carved antique cabinets, filled with bronzes, medallions, precious glass of Venice and curiosities of fine handiwork in all the arts. The walls were rich with hangings, old panels, sculptured or painted, and modern studies from the studios of Paris. These, together with mediaeval missals and embroideries, instruments of music, masterpieces of forged and wrought metal work and of faience, strange and costly toys of every era of civilization brought into the great chamber the mellow atmosphere of the old world. More than all this to us was Hunt's noble and inexhaustible library, by far the richest, most comprehensive, and most curious collection of books on architecture and the other fine arts which at that time had been brought together in the new world.* . . .

*This library was bequeathed to The Institute and is now among our most cherished possessions.—Ed.

His photographs, books and prints, his own drawings gave us a large view over the whole historical field. Academic prejudices never affected the large catholicity of his mind. His criticisms of our poor attempts were pungent and severe, but so genial and picturesque that every visit left behind it not only an enduring inspiration but an atmosphere quickened by his energy and illuminated by his inexhaustible humor. For he was as much as comrade as a master. In short, our experience was a liberal education in the fullest sense, and when we left him with our imaginations no longer sterilized by prejudice and partisanship, but enlarged and enlightened by his influence, his warm interest in our personal and professional welfare never ceased. . . .

When, more than thirty years afterwards, in 1893, several of us were summoned to act together again with him on the great national arena at Chicago, the natural dominance of the master again asserted itself without pretension and we once more became his willing and happy pupils. To this instinct of family loyalty in art, through which all the trained intelligences then called together,

became close kindred, to this ideal relationship of mutual interest and affection may be attributed in no small measure the majestic unity of the Court of Honor.

When, therefore, the Royal Institute of British Architects gave to Hunt its gold medal in 1893, it honored the man, who, more than any other, had by personal force and high training secured for the architecture of our time and country a standing adequate at last to represent our civilization in terms of art. We recognize the justice of this great distinction less because of any single achievement of his than because we feel and know that our profession has worked upon a higher plane of endeavor and has received from the public a greater respect and consideration since this man began his noble career among us. The American Institute of Architects and, indeed, the whole profession were honored in the honor conferred upon him. . . .

The battle of the styles was then, as I have already intimated, waged all over the architectural field, and it must be confessed, the earliest discussions of this Institute were ensanguined by the great dispute. Hunt, with all the martial gallantry of his nature in-

spired the Classic camp with ardor. The Gothic side was championed by the strongest and best equipped men in the profession. The whole historic arsenal was ransacked for weapons on both sides, and the controversy was carried on with such heat and was so engrossing that finally a vote was passed excluding this dangerous subject from the discussions of the Institute. It will be readily understood that in these animated disputes the pupils of Hunt, whose names you will see on the first lists of the Institute, where they were written thirty-seven long years ago as associates, followed the white plume of Navarre, and inspired by him with rash zeal, dared to measure their maiden weapons with those of the oldest and most experienced warriors on the other side. . . .

Indeed, in this respect, it would be difficult to exaggerate the change immediately effected by the establishment of the Institute in the personal and professional relationships of its members; and in this beneficent work Hunt's influence was pre-eminent. Before this establishment, community of thought, mutual friendship hardly existed among architects. The hand of each was turned with jeal-

ousy and suspicion against his brother. His processes of design and his business methods were personal secrets. Each concealed his drawings from the rest as if they were pages of a private diary. Even books and prints were carefully secluded from inspection by any rival. Pupils were apprentices, and as in my own case, often looked with eager and unsatisfied eyes through the glass of their master's locked bookcases. There were no ethics of practice, no common ground of mutual protection, no unity of action or thought, no national literature of architecture. . . .

It is needless to repeat here the long and brilliant list of Hunt's works which include some of the most interesting monuments of our time. . . . But we cannot cease to regret that the noble powers, so admirably fitted for the expression of the grandiose, the magnificent in our art, should have had their principal field, not in our national monuments, which his hand would have made worthy of our civilization, and a quickening impulse in our national art, but in decorating the superb privacies of the Vanderbilts and Goelets, the Marquands and Astors, the Belmonts and the Gerrys. Concealed

behind the guarded hospitalities of these generous patrons of architecture, the studied proportion, the lovely details, the monumental beauty of Hunt's interior work are doing profitable service in the cause of a higher culture and a nobler civilization. . . .

But while, with the exception of two buildings at West Point, the Yorktown Monument and the National Observatory at Washington, no commissions of national importance and no official honors came to him from the government of his native land, he received from foreign countries recognition such as no other American has enjoyed.

On the 25th of November, 1882, he was made honorary and corresponding member of the Academie des Beaux-Arts of the Institute of France.

On the 25th of November, was decorated as Chevalier of the Legion of Honor, the "demande" being supported by such great names as Baudry, Bouguereau, Amboise Thomas, Charles Garnier, Ballu, Bonnat and Falguiere.

On the 26th of January, 1886, he was made member of the Société Centrale des Architectes Francaises.

On the 1st of February, 1886, he became honorary and corre-

sponding member of the Royal Institute of British Architects.

On the 12th of April, 1887, he received similar recognition from the Society of Engineers and Architects in Vienna.

On the 29th of June, 1892, he received the degree of LL. D. from Harvard University, the first honor of the kind ever bestowed on an architect, and one which he especially cherished as coming from his native land.

On July 13th, 1892, he became an academician of the Society of St. Luke in Rome, the oldest institution devoted to art in the world.

In 1893 he received the royal gold medal of that year from the Royal Institute of British Architects, the first American thus honored.

In the same year he received perhaps the most distinguished honor of all in his election to fill a vacancy as associate member of the Institute of France, Franklin, I believe, being the only other American so distinguished.

And it is a pleasure to us to remember that in electing him third president of the American Institute of Architects in 1888, we also did him honor, while he, in that capacity, added to the obligations

which all architects in this country are glad to acknowledge. . . .

I venture to say that no one here will question that our late illustrious comrades, Hunt and Richardson, were the most conspicuous leaders in this large and liberal movement. They brought from the French School all its discipline, but in practice they expressed themselves with a freedom from classical restraint and scholastic subserviency, which, as it would have been well-nigh impracticable in France, must, it would seem, be accepted as the result of new conditions of life acting upon trained but receptive minds. . . . Unlike Richardson, Hunt did not leave upon his own work an expression of strong personality, and for that reason his leadership, though far less evident and picturesque, is far safer against the dangers of aberration among his followers. . . . Thus he founded no new school. He prevailed, not

as an irrepressible genius who breaks traditions, but as a guardian who respects them with the spirit not of an antiquarian but of an artist.

Among his latest works the superb house of the Goelets and the interior of the beautiful pavilions of Belcourt at Newport, and, above all, the chateau of Biltmore in North Carolina, bear witness not only to his profound respect for authority and to his command of precedent, but to a certain pliability of mind, which enabled him to accommodate all the complicated conditions of modern living within the reasonable compass of the Gothic of Chambord or of Pierrefonds. . . .

The principal decorations of the great hall (of Biltmore) are two life-size portraits by Sargent, one of Hunt and the other of Olmsted, who on this splendid field, as elsewhere, worked in most fortunate sympathy to the glory of art in America.

Architects Read and Write:

THE ARCHITECT AND HIS EDUCATION

By R. CLIPSTON STURGIS, F.A.I.A., Portsmouth, N. H.

THE STUDENTS in the Architectural School of the University of Pennsylvania are for-

tunate in having put so clearly to them what the education of an architect should be, and what he

JOURNAL OF THE A. I. A.

should strive for in designing. It has never been more convincingly stated. Many practising architects might well "read, learn and inwardly digest" Mr. Walker's admirable address (July and August JOURNALS).

In my early days the Ecole at Paris was the one and only recognized good school, but there a broad education was so lacking among the French students that our men were easily leaders; but what they learned there was in line with Mr. Walker's story of M.I.T. and Garnier's Opera House. At all events the moment they began practice here they promptly forgot all their *Beaux-Arts projets*; McKim did the Casino at Newport and John Stewardson the buildings for the University of Pennsylvania and Princeton.

Whatever the architect gains from his school must be only supplementary to his "broad education"; history, philosophy, literature and music must be his backlog. Mr. Walker emphasized the fact that the architect should continue his education all his life, and he is only a real architect when and if his "work fills all his waking hours". I did most of my designing on trains in small books of cross-section paper. Ninety such books are in my office, representing nearly fifty years of practice. The architect must have (1) intellectual curiosity, (2) judgment, (3) tolerance. I

have found this absolutely true. I have also observed that the young practitioner goes through three stages of design. First: his ambition urges him to design something new—like McKim's Casino—then he finds that the product is not so good as he expected. Second: he turns to the past and tries to copy. Third: when he has been so saturated with the past as to make it a familiar language, he designs with his own individuality. In England, Bodley and Garner designed churches like Hoarcross; here, Bertram Goodhue did the Fair buildings at San Diego; McKim did the Morgan Library; Stanford White, Madison Square Garden, and Henry Bacon the Lincoln Memorial.

There is a ceaseless cry for functional architecture. This is simply stating an all-time truism. All architecture that is any good is functional. The medieval cathedrals were the solution of the support of the stone vault, the modern opera house is the solution of sight and hearing for the audience. The architect must "practise patience and perseverance", and he must humbly try to learn from his client what is desired and must then use his judgment to determine what is "really important"; and through it all his imagination is at work to determine in what beautiful form the "really important" things can be expressed.

OCTOBER, 1947

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The Editor's Asides

WHEN, IN YOUR INCOME TAX RETURN, you include among justifiable deductions the dues of professional societies, what do you do about entertainment of clients? The *U. S. News* contributes an item which leaves us about where we were:

"An architect maintained membership in two country clubs. He claimed that this membership was necessary to make contact with potential clients. The Treasury disallowed this deduction on the ground that it was neither ordinary nor necessary. The Tax Court, on appeal, however, allowed part of the deduction and disallowed part."

WE ARE TARDY in recording the death, last spring, of Camille Lefèvre. M. Lefèvre served for many years as a member of the Paris Committee, collaborating with the Institute's Committee on Awards and Scholarships.

This Paris Committee is responsible for the choosing of French students to be awarded the Delano and Aldrich Scholarship which was set up some twenty years ago. Incidentally, although four out of the five original members of this

Committee were graduates of the Atelier Laloux, they leaned over backward in their awards, so much so that they did not award the scholarship to a Laloux graduate until about the seventh year. M. Lefèvre was the official architect of the Louvre, and a Prix-de-Rome man shortly after 1900. The Institute elected him an Honorary Corresponding Member in 1925.

ARE YOU STILL SOMEWHAT UNEASY about the durability of coatings for masonry surfaces? The National Bureau of Standards isn't, after making a series of six-year outdoor tests. Incidentally, the Bureau says that for cement-water paints, the method of application, the curing and the conditions under which the surface was painted are more important than the composition of the paint, provided the portland-cement content of the latter is not less than 65% by weight.

NEW YORK CITY has been having an interesting and not too acrimonious fight over the approach to the U. N. headquarters site. Frederick J. Woodbridge, as chairman of the New York Chapter's Committee on Civic Design,

has been warning the city fathers against their timid little plan for the western approach. Listening, but apparently not yet ready to fire a salvo, is that doughty defender of practicability, Robert Moses. In a third corner is William Zeckendorf (who sold the U. N. site to Mr. Rockefeller), offering to guarantee the City against loss in condemning a six-block area, on which, besides a two-block concert hall, an opera house and several theaters. In the fourth corner of the ring is the City Planning Commission. Here are the makings of a good battle royal.

IN ONE OF *Arts & Architecture's* case study houses, Sumner Spaulding and John Rex have rediscovered the serpentine brick wall devised by Thomas Jefferson. If it doesn't appear frequently hereafter in the designs of those who copy rather than think, probably in conjunction with the kidney-shape pool, I'll miss my guess.

WE WERE SAYING last month that production appeared to be increasing but the details were rather obscure. Meanwhile, the Department of Commerce issues a report

reviewing the first half of 1947. Apparently we were 19.1% above production during the corresponding period in 1946. The largest advances are shown in hardwood flooring, softwood plywood, clay sewer pipe, cast-iron soil pipe and fittings, gypsum board (including lath), asphalt roofing materials, concrete reinforcing bars, wire nails and staples, cast-iron radiation, rigid steel conduit and fittings, warm air furnaces, and water heaters (except electric).

The picture isn't so good with regard to new construction put in place. In 1947 it is expected to total about \$12.2 billion, which dollar volume would be greater than for any year except 1942. The sad part of it is that this high dollar volume is largely accounted for by the high construction costs (about 90% above 1939). If we make allowance for changes in construction costs, the physical volume of construction in 1947 will have been exceeded in at least twelve years out of the last thirty, and it will be less than two-thirds of the peak physical volume reached in 1927. The *Saturday Evening Post* has a pertinent jingle to the effect that 60,000,000 persons are employed, but how many are working?

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